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NASHVILLE JOURNAL
OF
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CHARLES S. BRIGGS, A. M., M. D., Editor and Proprietor
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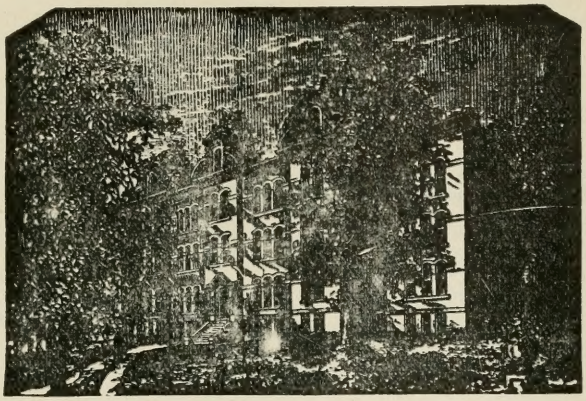

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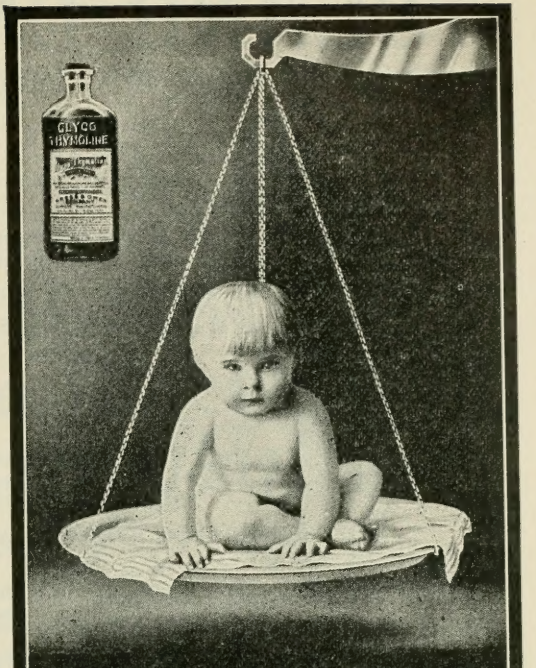

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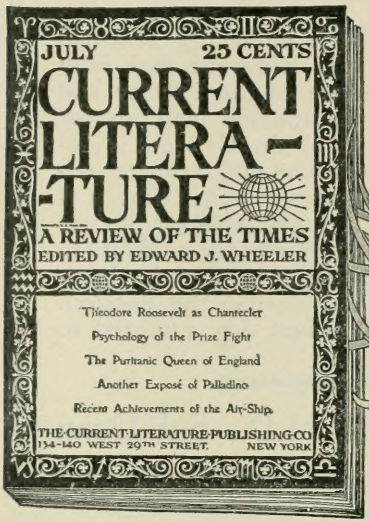
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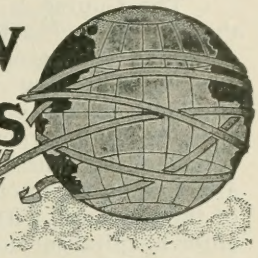

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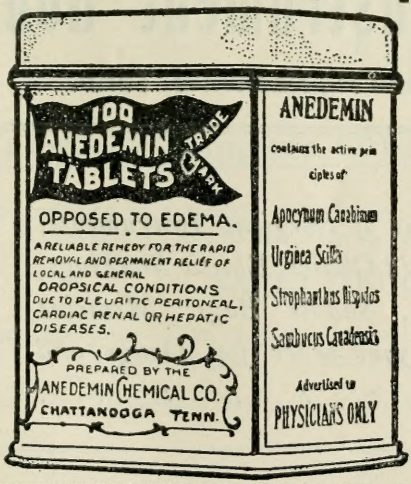
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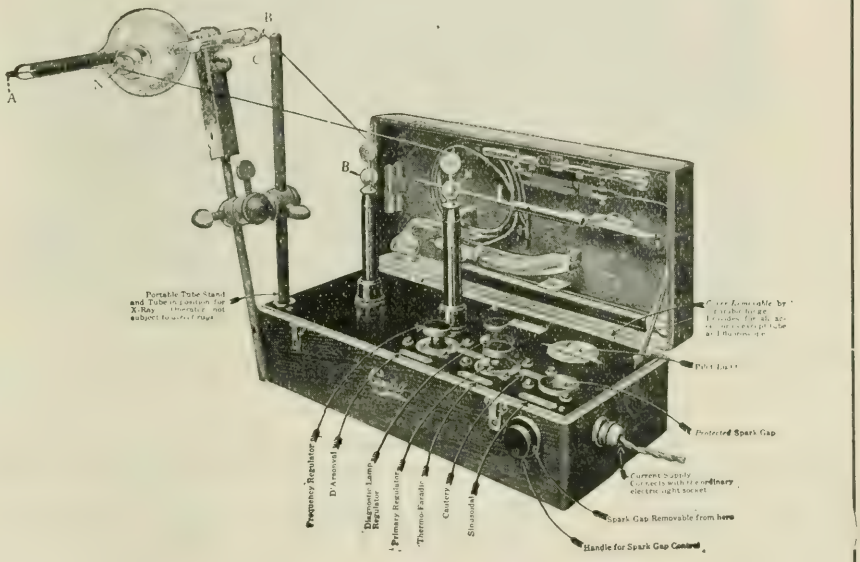

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MEDICINE AND SURGERY

CHARLES S. BRIGGS, A. M., M. D., Editor

VOL. CVII. AUGUST, 1913. No. 8

Original Communications

THE OPEN TREATMENT OF FRACTURES—A FEW REMARKS.*

By PAUL DEWITT, M.D., Nashville, Tenn.

The object of this paper is not to go into an exhaustive discussion of the treatment of fractures, but to pass a few remarks upon some practical points. During the Clinical Congress of Surgeons in New York last fall I enjoyed the rare privilege of seeing Mr. Lane plate three fractures. The things which especially impressed me about Mr. Lane were his personal unassuming simplicity, his gentleness of manipulation, and the perfectness of his aseptic technique.

After having seen a good deal of the operative treatment of fractures and having done a certain amount myself, I am more and more impressed with its possibilities. While I do not believe all fractures should be operated upon, I am convinced not enough are so treated. Many deformities, shortenings, etc., could and should be prevented.

The report of the committee on fractures of the British Medical Association shows that, in children, the non-operative and the operative treatment give about the same percentage of functional results, and that as age advances, the results are progressively in favor of operation. Old people, however, stand even

*Read before the Middle Tennessee Medical Society at Dickson, Tenn. Tenn., May, 1913.

simple fractures badly, and caution should be exercised in advising any procedure that may add serious shock. Apply the method to the case and not the case to the method.

As to the time for operating: Mr. Lane operates immediately, thus relieving swelling and taking advantage of all possible time for union. Operate any time after shock is relieved, preferably within five days.

Ligamentous-union and ununited fracture have heretofore been our chief indications for open interference, but, while necessary in these cases, the best results are obtained in cases operated upon immediately after fracture, before callus has been thrown out and the bone has expended its energy in an attempt at union.

Comminuted fractures especially demand open treatment, because of the difficulty of aligning and maintaining the fragments, and the probability of the interposition of muscle and small pieces of bone.

In fracture of the femur, it is estimated that twenty-five per cent require operation. I believe the percentage should be higher. The shaft of no other bone gives as bad non-operative results as does the femur. This bone is so deeply imbedded in muscle that it is usually impossible to tell, without the X-ray, whether or not the fragments overlap or even touch. The committee of the Pennsylvania Medical Society reports that shortening of an inch is considered a good result and a half inch is the average. This deformity can be prevented absolutely by operation and the end-results will justify the risk.

The tibia also frequently requires plating, due usually to the obliquity of the fracture. In the humerus, especially the middle and lower thirds, the open treatment is desirable because of the frequent injury to the musculo-spiral nerve, which is either lacerated or pinched. By operating, the nerve can properly be taken care of and musculo-spiral paralysis or wrist-drop prevented. In the bones of the forearm, plates work admirably, giving fine rotation because of the better alignment and a really smaller callus.

It requires a general anæsthetic for the proper reduction of these fractures, and I do not believe a quick operation will add materially to shock.

Infection has been the dread, but the technique elaborated by Mr. Lane eliminates this objection. Asepsis must be absolute, even more so than in abdominal surgery where the peritoneum takes care of a certain amount of infection, while bone will not tolerate it, owing to its meager blood supply. To accomplish asepsis, instruments must not be handled by assistants even with gloved hands. All instruments, swabs, etc., are handled with forceps. The gloved hand must not touch anything which touches the wound. One knife incises the skin and another is used for the muscle. As soon as bone is reached, towels are clamped to the deep muscles covering all cut surfaces, thus preventing contact of instruments with the soft parts. Muscles are now gently separated from each fragment enough to allow the application of the bone clamp and plate. The periosteum is left intact. Reduction is effected by grasping each fragment with a lion-jawed forcep, bringing it out of the wound, approximating the ends and then straightening the limb. Bowman's clamp is now applied, which holds the fragments and also the plate while the screws are being inserted. No catgut or other suture material is put into the wound, bleeding vessels being clamped and the muscle simply allowed to fall back into place. Michell's clamps approximate the skin.

Traumatism, being one of the main factors in all wound infection, the gentlest manipulations are necessary. Just as mauling fat in an abdominal incision will cause necrosis, so here roughness will induce a breaking down of soft parts.

Plates and other mechanical supports will remain indefinitely in the tissues if placed not too near the skin and there is no infection. The main reason screws "work loose" in apparently sterile wounds is because of a low grade infection on the screw, usually put there by picking up the screw with the fingers. An absolutely sterile screw will maintain a firm hold indefinitely.

All these things go to show that a fully equipped operating room and trained assistants are necessary for the greatest meas-

ure of success, but, with these, we are able to obtain a greater percentage of better results by seeing what we are doing and using a truly mechanical support for a break.

I here present skiagrams to illustrate. This was a lad twelve years old who was struck by an auto, the lamp hitting the thigh at the seat of fracture. After two and a half weeks of the usual treatment with extension, etc., I was able to get him to the X-ray machine. Picture No. 1 shows the fragments overlapping and not even touching, yet to all appearances there was perfect apposition. On cutting down I found a strip of muscle interposed. This would have been a case of non-union, and had I operated earlier the boy would have been saved two weeks' time. I present these pictures simply as an example of what we may expect in getting better and quicker results by using the open method of treatment in certain fractures.

Selected Articles

THE USE OF OPIUM IN GANGRENE.*

By George W. Gay, M.D.,
Senior Surgeon, the Boston City Hospital, Ex-President Massachusetts Medical Society, etc., Boston, Mass.

The object of this paper is to call attention to the beneficial effects of opium in certain conditions and lesions of the lower extremities occasionally met with in elderly people. While serving as interne in one of our hospitals in 1865, in the days of "Swan Alley ulcers," hospital gangrene, etc., the writer was taught the value of this drug in those conditions resulting from degeneration of the blood vessels of the lower extremities due to arteriosclerosis, atheroma, thrombosis, etc. Of course the importance of these changes was not appreciated in those days, as it is at the present time. Now it is a familiar saying, even among the laity, that a person is as old as his arteries. Arteriosclerosis, "hardening of the arteries," as common parlance has it, is a very common condition and means wearing out. Many of the sudden deaths from "acute indigestion," as reported in the daily press, are due to this degenerative affection. For example, a clinical picture frequently met with in elderly people by every practitioner consists in dyspnea, short breath on running upstairs, chasing a street-car, or undergoing any unusual mental excitement. In the absence of other competent explanation of the symptoms, it indicates a degeneration of the coronary arteries, or of those in other parts of the body, that means destruction. There is no cure for this condition, although a great deal can be done to prolong life and make it well worth the living.

When vascular degeneration affects the lower extremities in the form of endarteritis, atheroma, thrombosis, etc., we have

*From the Medical and Surgical Reports of The Boston City Hospital Sixteenth Series, 1913.

other manifestations that may terminate disastrously. The arterial coats are thickened and in consequence lose their elasticity. The lumen of the vessels is diminished, the circulation is retarded, capillary action is impeded, stasis follows, and the tissues break down in indolent ulceration, sloughing, and gangrene. Similar conditions are not infrequently met with in diabetics, and while these patients should receive the peculiar dietetic treatment applicable to this affection, yet the method advocated in this article may well find a useful place in the management of these cases in accordance with suggestions that will appear later.

Pain in the feet, and especially in the toes, of elderly people is suspicious of more serious affection than "rheumatism." It may be the initial symptom of an indolent ulceration which may terminate in gangrene. Should the patient be a victim of arteriosclerosis, as most of them are, the dangers resulting from impaired nutrition are all the more imminent.

Upon inspection the circulation will be found sluggish, as indicated by the dark, purplish color and slow return of blood following pressure, etc. The tibial vessels will be indistinct, or not to be detected by palpation. Sensation may be altered, as well as the temperature. Under these circumstances even trivial lesions, as abrasions, blisters, black spots, etc., demand careful attention. They may mean mischief. The toilet of the nails calls for much care. Corns and bunions should not be neglected, but on the contrary should receive respectful consideration. The circulation and the nutrition of the parts are seriously impaired, and unless corrected to a certain degree, destructive processes may ensue, to the permanent harm of the patient.

Whatever may be the cause of the conditions under consideration, whether it be arteriosclerosis, atheroma, diabetes, thrombosis, embolism, etc., the indications for treatment are to stimulate the circulation and to increase the nutrition by supplying the tissues with a larger amount of pure arterial blood.

For the attainment of these objects the most efficient drug known to the writer is opium. It relieves pain and quiets restlessness. It is a tonic to the heart and blood vessels. It supports the nervous system. Used properly it produces a calm, even

sense of comfort and contentment. It stimulates the circulation and thereby increases nutrition of the extremities to a much greater extent than any other known to the writer.

For the class of cases under consideration opium is preferable to any of its derivatives, as morphine, codeine, etc. The deodorized or the simple tincture is more convenient of administration than are the solid preparations, as the dose can be more readily adapted to the varying conditions. The initial doses should be small, that the physiological and not the toxic effects of the drug may be obtained. This is an important factor in the method and merits careful attention. In ordinary cases it is well to begin with two or three drops of the tincture, deodorized or simple, night and morning. This amount may be increased by one or two drops every four to six days until some improvement is evident either in relief of the pain or the appearance of the affected parts. The moment that appears the dose is to be maintained, or perhaps lessened a little. The writer has never had occasion to exceed twenty drops in divided doses in the twenty-four hours. One of his cases has taken ten drops daily for two years or more with benefit and no harm. It seems to act as a tonic similar to strychnine, except that the improvement was much more apparent under the opiate treatment than it was under the former agent.

In many instances the drug should not be left in the control of the patient, nor need he know what he is taking. The physician or some reliable person should have charge of the medicine, "the drops," to insure the proper dose and a proper restriction of the amount taken. These precautions are essential to obviate the danger of establishing the opium habit. One of my patients in the long ago pauperized himself and some of his friends through lack of proper supervision. He took hundreds of bottles of McMunn's elixir of opium, which was at one time used extensively until supplanted by the deodorized tincture. His sloughing ulcers of the leg healed and remained well during the remainder of his life, but he got out of bounds in the use of the drug. This is the only instance the writer has seen of this sort under this mode of treatment.

The long-continued use of opium, the "long dose," as that prince of lecturers, Dr. Edward H. Clark, used to term it, calls for judgment and discretion in order to obtain the full benefit of the method. Careless, offhand prescribing has no place in the use of this powerful and seductive drug. It is better to avoid giving it on a prescription as much as possible. The physician should control not only the dosage, but also the entire quantity consumed, as a guarantee that only the desirable e:ects shall be obtained.

So far as the amount is concerned, the same rule should be followed here as is indicated in the opium stage in malignant and incurable diseases. Should the dose be too rapidly increased, under the latter conditions, or carried to too great an extent, the time is liable to come when the drug ceases to give relief and the patient is indeed in a pitiable state. Her sheet-anchor is gone. Her nervous system may be demoralized by the drug and the disease, and the ingenuity of the medical attendants is taxed to the utmost to give the relief so desirable in these distressing cases. Partial relief to suffering, as can usually be secured with moderate doses of the opiate, is preferable to entire relief for a time at the expense of large and increasing doses that can not be long continued. In the class of cases under consideration in this paper, large doses of opium are not a tonic and would eventually do more harm than good. The writer can not insist too strongly upon this point. It is the mild, tonic effects that are desired, and not the stronger, variable, stimulating effects, that are liable to be followed by a reaction that defeats the objects of the method. Properly managed, under the supervision of a discreet physician, the drug can be used indefinitely with benefit. The stomach and bowels are not disturbed to any extent. Vitality is maintained. The nervous system is steadied and supported, and life is better worth living not only for the patient, but for all within the sphere of his influence.

A clergyman, seventy years of age, had gangrene of all the toes of one foot, except the fifth, the result of an embolism of the femoral artery following an operation for appendicitis. He had arteriosclerosis with atheromatous arteries. The question of an

amputation was left to the decision of the writer. By reason of the degenerative condition of his blood vessels and the exhaustion of the patient, it was thought that his chances of life would be better under a conservative than under a radical mode of treatment. Furthermore, his circumstances were such that time and expense were of secondary importance. He was put upon two drops of deodorized tincture of opium night and morning. This dose was increased gradually until it had reached ten drops—*i. e.*, twenty drops in the twenty-four hours. Under this treatment the toes have dropped off, or have been snipped off if necessary, the wounds have healed, and the patient is in good condition. He spends his winters in the South, takes an interest in life, and is free from suffering. He has used the drug for three and a half years, taking ten drops daily. His family physician, Dr. H. J. Little, writes: "His recovery has been remarkable, and is a marked tribute to conservative treatment and opium."

A police captain, seventy-five years old, a victim of arteriosclerosis, was gradually disabled from pain, swelling, and redness of the feet and debility. He improved for a time under tonics and rest. Later, however, deep ulcers appeared on a toe of each foot and soon involved the other toes. One was amputated, but the wound refused to heal. The left foot became tensely swollen, painful, red, and shiny, threatening to slough. The old gentleman was prostrated by his condition, and the question of radical treatment called for a decision. He was placed upon the opium treatment, as in the previous case, and soon an improvement was in evidence. One toe dropped off, or was snipped off with scissors. The ulcerations and wounds slowly healed, and in a few months he had sound feet. He was free from pain, and has remained very comfortable now for over a year. In the words of the family physician, Dr. E. S. Boland: "In estimating the actual value of the opium, the fact that he also had rest in bed, good food, nursing, and 1-30 grain strychnine three times a day must be kept in mind, but he had all these before you gave him the opium and did not improve."

The personal element enters very largely in the management of these long and often tedious cases of senile degeneration. The

patient is on the down-hill side of life. His tissues have a lowered vitality. His recuperative powers are impaired. He does not rally from comparatively trivial disturbances, as he formerly did. One or more of his functions may be showing signs of failure. Fortunately, however, the patient does not usually realize, as does the medical attendant, that the fight is eventually to be a losing one; that a moderate degree of comfort and as great a prolongation of life as may be are all that can reasonably be expected from any sort of treatment. Patience, tact, and perseverance are indispensable to a successful management of these cases. Much, very much, can be done for the welfare of these patients aside from the use of medicine. But in the experience of the writer no drug when properly used excels the juice of the "divine poppy," opium.—*The Therapeutic Gazette.*

Proceedings of Societies

AMERICAN PROCTOLOGIC SOCIETY.

Fifteenth Annual Meeting, held at Minneapolis, Minn., June 16 and 17, 1913. The President, Dr. Louis J. Hirschman, of Detroit, Mich., in the chair. Officers elected for the ensuing year: President, Joseph M. Mathews, M.D., Louisville, Ky.; Vice-President, Jas. A. MacMillan, M.D., Detroit, Mich.; Secretary-Treasurer, Alfred J. Zobel, M.D., San Francisco, Cal. Executive Council: Louis J. Hirschman, M.D., Detroit, Mich.; J. Rawson Pennington, M.D., Chicago, Ill.; Wm. M. Beach, M.D., Pittsburg, Pa.; Alfred J. Zobel, M.D., San Francisco, Cal.

The following were elected Associate Fellows of the Society: V. Lee Fitzgerald, 17 Batley St., Providence, R. I.; J. M. Frankenburger, Rialto Bldg., Kansas City Mo.; Wm. H. Kiger, 308 Consolidated Bank Bldg., Los Angeles, Cal.; Walter I. Le Fevre, 218 Lennox Bldg., Cleveland, Ohio.

The following is an abstract of the principal papers read:

PRESIDENT'S ADDRESS.

"Proctology and Procto-Enterology"—By Louis J. Hirschman, M.D., of Detroit, Mich.

He stated that "Proctology come into its own" is in reality the study of the entire intestinal tract, its diseases and their remedies. A Proctologist becomes skilled to a high degree in the medical and surgical treatment of the diseases of the lower bowel. A medical practitioner, sufficiently skilled and competent to treat diseases affecting any portion of the intestinal tract, should be an intestinal surgeon. He must have some knowledge of modern views and discoveries bearing on the digestive tract, as they have a direct bearing on intestinal function and pathology. He should no more limit his activities to the rectum and sigmoid alone, than does the laryngologist to the larynx, or the urologist to the urethra.

An arbitrary line of division which limits a specialist's activities to the lower six or eight inches of the colon is absurd. The Proctologist has no moral right to withhold his special skill in intestinal surgery from the patient who suffers from diseases of the small intestine or upper colon. The larger problems of intestinal stasis, chronic inflammatory conditions and malignant diseases of the small and large intestines, demand the best that is in every Fellow of our organization. He should ever study and fathom out the problems of etiology, pathology and proper therapy.

The establishment of a section on Gastro-Enterology and Proctology in the American Medical Association would greatly increase the value of that organization to every one of its members who comes in contact with diseases of the alimentary tract.

It is the American Medical Association which should foster all that is new and valuable in medicine. It is the greatest medical educational institution in our country; and the Fellows of the American Proctologic Society should be the most enthusiastic supporters of such a section, if established.

"Memoir of James P. Tuttle, New York City, N. Y., and Memoir of Louis Straus, St. Louis, Mo."—By Joseph M. Mathews, M. D., of Louisville, Ky.

These memoirs were inspired by precious memories of close personal association with the late Fellows of the American Proctologic Society, who were both charter members of that organization. In well chosen and in deeply sympathetic words the noble character and high professional worth of these lamented Fellows were outlined in a manner which did honor to their memory.

"A Review of Proctologic Literature from March 1912, to March 1913"—By Samuel T. Earle, M.D., of Baltimore, Md., Chairman of the Committee on the same.

In this review of Proctologic literature Earle quotes freely from the following authors:

Dr. Edward H. Goodman, of Philadelphia, Pa. (Progressive Medicine, December 1912, page 100), quoting from Ageron

(Archiv. f. Verdauungskrankheiten, 1911, XVII, page 584), "Constipation."

W. Ernest Miles, F. R. C. S. England (The Glascow Medical Journal, No. 11, February, 1912, page 82), "The Treatment of Carcinoma of the Rectum and Pelvic Colon."

H. Grame Anderson, M. B., Ch. B., F. R. C. S. (British Medical Journal, 1912, Vol. I, page 129), "Solid Carbon Dioxide in the Treatment of Hemorrhoids."

Dr. Walton Martin, New York City (Annals of Surgery, Vol. LV., 1912, page 901), "Carcinoma of the Rectum: Combined Abdominal and Perineal Rectectomy."

Harrison Cripps, F. R. C. S. England (British Medical Journal, 1912, Vol. II, page 843), "The Treatment of Rectal Cancer."

Dr. William J. Mayo, Rochester, Minn. (Annals of Surgery, Vol. 56, 1912, page 240), "The Radical Operation for the Relief of Cancer of the Rectum and Rectosigmoid."

Mr. Lockhart Mummery (British Medical Journal, Vol. 1, 1912, page 1427), "Recorded Cases of Intractable Constipation Treated by Operation."

Dr. Arthur W. Elting, Albany, New York (Transactions of the American Surgical Association, 1912, Vol. XXX, page 176), "Treatment of Fistula in Ano, with Special Reference to the Whitehead Operation."

Dr. Alexis V. Moschowitz, New York City (New York State Journal of Medicine, Vol. XII, No. 11, 1912, page 654), "The Pathogenesis, Anatomy and Cure of Prolapse of the Rectum."

Dr. William C. Lusk, of New York City (Annals of Surgery, January, 1913, Vol. LVII, No. 1, page 106), gives a description of "An Instrument for Establishing Fecal Drainage, with a report of its use on a case, and a consideration of the site for making a fecal fistula in low-seated intestinal obstruction."

Two new proctoscopes have been devised during the past year. "The 1912 Proctoscope," Jerome M. Lynch (New York Medical Journal, 1912).

"A new pneumo-electric proctoscope and sigmoidoscope," F. C. Yeoman (Journal of American Medical Association, 1912, Vol. LVIII, page 929).

There have been several reports of the use of Extra-dural Sacral Anæsthesia, von W. Stoeckel (Zentralblatt fur Gynakologie No. 1, 1909), von Dr. Maryan Tobiaszek (Zentralblatt fur Gynakologie, 33 Jahngang, 1909), and Dr. Jerome M. Lynch (Medical Record, February 8, 1913, page 235).

"A Method of Operation on Fistula Without Cutting Muscular Tissue."—By Rollin H. Barnes, M.D., of St. Louis, Mo.

This method is used in those cases of fistulæ which involve the sphincter muscles. An incision is made external to the sphincter, similar to that made when incising an ischio-rectal abscess. Through this opening the scar tissue is dissected out up to the internal opening. An incision is then made at the skin margin, so that the middle of this incision passes through an imaginary longitudinal line drawn from the internal opening. A submucous dissection is then channeled out up to the internal opening. Gauze drainage is kept in this until the external wound is healed sufficiently. Then the submucous tract, which remains, is incised under local anæsthesia. No muscular tissue having been cut, the function of the sphincters is preserved intact.

"Report of a Case of Fecal Tumor Associated with Hirschsprung's Disease."—By Alois B. Graham, A. M., M.D., of Indianapolis, Ind.

Dr. Graham reported a case of fecal tumor associated with Hirschsprung's Disease, the clinical history of which is unique and exceedingly interesting. The patient, a young French woman, aged 27, stated that she had undergone three abdominal operations for Hischsprung's disease, or megacolon.

Present illness dates from birth. Not unusual to go a week or ten days without a stool, and then evacuation was produced only by means of enemata.

At the age of 12, her condition was diagnosed as one of pregnancy on account of the vomiting and the appearance of the abdomen.

At the age of 19, she suffered an attack of complete intestinal obstruction due evidently to fecal tumor. She was operated, and a large fecal tumor was removed from the sigmoid. Six months later, she was operated for post-operative adhesions. No resection of the bowel or short-circuiting operation was performed.

At the age of 25, she suffered an attack of complete intestinal obstruction. She was operated, and a large fecal tumor was removed. Patient stated that the bowel was plicated in closing. Wound healed promptly, but she remained in the hospital for three months purely for clinical purposes.

August, 1912, she, for the third time, presented symptoms of complete intestinal obstruction. She had been absolutely constipated for seven days. Abdomen enlarged and everywhere tympanitic except in the lower right quadrant, where there was a dull area corresponding to a large tumor which could be readily palpated. Tumor, a fecal mass, was exceedingly hard and did not pit on pressure. It could be easily moved in every direction throughout the abdomen. Attacks of violent, colicky pains were frequent. Vomiting was persistent, pulse 120, temp. 101 F. Hydrogen peroxide, introduced into the rectum, had no effect on the tumor, but produced excruciating pains over the entire abdomen. Patient consented to operations with the promise exacted that nothing radical be attempted. She requested that the fecal tumor be removed, but refused to give her consent to any short-circuiting or resection of the bowel.

Median incision. No adhesions. Fecal tumor in sigmoid. Tumor of "stony" hardness. Its greatest circumference was 19¾ inches, its weight was 64 ounces. The dilatation which was confined to the sigmoid was very marked, the greatest circumference being 20 inches.

Patient made an uneventful operative recovery, and was discharged from the hospital on the 10th day. She gained in weight and appeared to be in the best of health. She experienced no difficulty in procuring daily evacuations with the aid of small doses of cascara.

December 15, 1912, was the date of her last visit to the writer's office. At this time she was doing nicely. Inquiries as to her

whereabouts were made and the reports were to the effect that she has returned to France. Information was received the latter part of April that patient had gone to Chicago from Indianapolis. She evidently suffered another attack of intestinal obstruction. was operated there April 19, 1913, and died three days later.

"A Further Consideration of Sir Charles Ball's Operation for Internal Hemorrhoids."—By Alfred J. Zobel, M.D., of San Francisco, Cal.

After a trial of this operation the author of the paper sums up his conclusions as to its value as follows: That, as a modification of the old ligature operation, it is better than the latter, in that it takes care of and avoids the recurrence of that revoluted anal skin ring which generally becomes markedly edematous immediately after these operations, leaving behind skin tags after the swelling subsides.

In every instance in which the essentials of Ball's technique have been followed out carefully the author's results have been exceedingly satisfactory.

The operation is recommended.

"Deductions Based on an Analysis of 3000 Rectal Cases."—By T. Chittenden Hill, M.D., of Boston, Mass.

The principle object of this tabulation of 3000 consecutive rectal cases was to furnish data as to the relative frequency of the various affections of the rectum and colon. There was a total of 1120 operations performed in this series, and some deductions of a practical nature were drawn from this experience. It was found that rectal ailments were more common among males than females, the ratio being three to two.

Hemorrhoids formed a large proportion, 41 per cent of the total. Next in frequency were abscesses and fistulæ, 18 per cent, and the remaining disorders were tabulated as follows: pruritus ani 8 per cent, anal fissure 10 per cent, colitis 6 per cent, prolapsus ani and procidentia recti 3.7 per cent, cancer of the rectum

and sigmoid 2 per cent, benign growths 1.5 per cent, stricture 1.5 per cent, syphilis 2 per cent, constipation 2.8 per cent.

Other miscellaneous conditions were recorded which made up but a fraction of one per cent, such as anal verrucca, congenital stenosis, patulous anus, pilo-nidal sinus, furuncles, foreign body, incontinence, coccygodynia, trauma, sigmoid diverticulitis, etc.

"Personal Reminiscences Upon the Subject of Proctology."—By Jos. M. Mathews, M.D., of Louisville, Ky.

The author of this very interesting paper tells of his early experiences in his chosen field of endeavor. He relates his meeting many years ago with those renowned surgeons who have made St. Mark's Hospital, of London, so famous.

Having been called "The Father of Proctology," he gratefully accepts the title, and, like a father, he offers good advice to, and will ever cherish what he now terms his offspring, the American Proctologic Society.

"Z-Plastic Operation for Anal Stricture."—By Wm. M. Beach, M.D., of Pittsburg, Pa.

The writer states that extensive cicatrices, resulting from trauma, and involving the partial or entire anal circumference, not infrequently resist the usual methods employed to restore the physiologic function of the anus.

He therefore employed what he terms a Z-plastic method when operating on an anal stricture. The principle underlying the procedure is the transposition of dermic tissue in such manner as to obliterate the crest of the fibrous band.

The first incision is made along the crest of such a band; then incisions are made at right angles from both ends, but running in opposite directions, thus approximating the letter Z. The flaps thus outlined are dissected up, transposed, and sutured. Various modifications are permissible, according to the extent of the stricture.

"Sphincteric Atrophy.—Causes, Consequence and Treatment."—By Ralph W. Jackson, M.D., of Fall River, Mass.

Muscular atrophy about the anus produces more serious consequences than hypertrophy.

The physiology of defecation is studied, and the action of the internal sphincter and of the external sphincter and levators sharply contrasted with their different innervation. This is preparatory to consideration and classification of the causes of sphincteric disuse and consequent degeneration.

Congenital causes are found in imperforate anus and congenital ano-vaginal cloaca. Coincidental with general weakness cases occur in infants, the aged, and the extremely ill. Traumatic causes are faults of protologic operations and aftercare, or obstetric lacerations, or due to prolonged divulsion by protruding piles or procidentia. Nerve causes are primarily sympathetic as in rectal stenosis, or central as in spinal cord lesions.

Degeneration or absence of one sphincter without impairment of the other is considered.

The unhappy consequences of sphincteric inadequacy are presented.

Treatment is preventive or restorative. Neither avails much when due to nerve causes, except possibly in luetic cases. Of first importance is the minimizing of trauma, both obstetric and proctologic (especially sphincteric incision). Repair of trauma should be immediate and accurate. Later attempts are much more difficult and uncertain on account of atrophic muscular changes, and often results must depend on cicatricial contraction and adaptation of other muscles, especially the levators, to sphincteric duty. Restoration of long over-stretched muscles is largely dependent on general treatment.

Sphincteric deficiency is a troublesome problem to every practitioner, and the prognosis is uncertain.

"Further Observations on the Surgical Anatomy of the Large Bowel."—By Granville S. Hanes, M.D., of Louisville, Ky.

Few realize that the capacious portion of the colon is at its cecal extremity. The diameter of the average cecum is estimated

at three inches, which is about the same as the rectum, though the cecum and ascending colon have a much greater capacity than the rectum and lower extremity of the sigmoid. The large intestine gradually decreases in size from the cecum to the rectum; the descending colon measuring one and one-half inches, or even less, at its narrowest point. These physical conditions explain in a measure the locality to which large quantities of fluids are transported when injected into the rectum.

The question of antiperistalsis in the large intestine in man is yet to be settled. It has been suggested that anastalsis may be inferred to exist in the proximal human colon for the reason that rectal enemas have been observed to traverse the entire length of the colon and escape through an artificial opening in the cecum. Also, because surgeons have attempted to stop a fecal-fistula discharge by transplanting the ileum into the transverse colon and sigmoid, but without success. The fact that rectal enemas have been seen to pass through the cecal fistula is, he is confident, little evidence of the operation of an antiperistaltic force.

An ordinary colon tube was introduced two or three inches into the rectum of a dog, and through a funnel inserted into the proximal end of the tube was poured in bismuth-buttermilk, and by the X-ray the author observed it traverse the large intestine to the ileo-cecal junction with no sign of anti-peristaltic movements. Similar experiments were made on children with corroborating observations. He has seen a pint of bismuth in suspension, when introduced into the rectum of an adult, pass around to the cecum in a few minutes with no evidence of aid by anastalsis.

Under normal conditions peristalsis in the large bowel is a slow process, and it is no more than natural to suppose that anastalsis is also slow in its operation. The brief time, then, required for fluids to pass from the rectum to the cecum compels us to consider the influence of other and more potent agents on the intestinal contents. Two factors are in operation when fluids are conveyed from the rectum to the cecum. The first is the distensible and elastic nature of the intestinal tube; and the second is the hydraulic principle which controls fluids wherever they may be. If fluid is forced rapidly into the rectum that organ will be seen

to be widely distended; but this same fluid can be seen to make its way up the intestinal tube along the path of least resistance. The distended rectum, because of its elastic nature, presses upon the contents till every drop of fluid within its lumen is subjected to an equal pressure. So if additional fluid is forced into the rectum the same factors will continue to operate.

If the ileum is transplanted into the transverse colon or sigmoid the watery intestinal contents will be forced by the elastic intestinal tube in the directions of least resistence. The right segment of the colon is the capacious portion of the large bowel, so if fluids are under greater intestinal pressure in the lower bowel the fluid contents will travel up to the cecum.

The author says, that even if we do admit the existence of anastalsis in normal conditions of the colon, he does not believe it to be an important factor in conveying fluids from the rectum up into the colon.

Hanes had a series of three X-ray pictures made on the same individual to show what actually happens when tubes are introduced into the bowel. The first, shows a thirteen-inch proctoscope introduced its entire length. The distal end is one inch above the umbilicus. The second, shows an ordinary colon tube introduced its full length after the removal of the proctoscope. The tube passed along the sigmoid up to the highest point (one inch above the umbilicus), and then turned upon itself, the distal end passing back into the rectum. The third radiograph shows the bowel injected with bismuth buttermilk, and the thirteen-inch sigmoidscope introduced again. This picture shows that it is impossible to pass any instrument high up in a normal colon, except by the greatest accident. The sigmoid is lifted up into the abdominal cavity; its lower arm is occupied by bismuth and the metal tube; while the upper segment of the sigmoid is seen very distinctly where it has dropped back from a point opposite the umbilicus into the pelvis to its junction with the lower extremity of the colon. He claims the latter radiograph proves that it is impossible to pass a non-flexible instrument beyond the first half of the sigmoid.

To control the outflow of fecal material in colostomies the author has found, in five cases operated since January 1 of this year, that the hard rubber rod can be allowed to remain permanently, when used as in the Maydl operation. The opening in the intestine is above the rod. A thin gauze dressing is applied over the bowel, and a strip of gauze is thrown around the knuckle of the intestine and overlying gauze is then tied under the supporting rod. The strip of gauze constricts both the upper and lower segments of the bowel, and exerts a most satisfactory control over these artificial openings.

"The Ano-Rectal Line—Its Clinical Significance."—By Collier F. Martin, M.D., of Philadelphia, Pa.

After discussing the development of the anus and rectum, Martin states that the ano rectal line, or dentate border, has a very important clinical significance, in that it is the point at which both the blood supply and the nerve supply become differentiated. Above it the blood is carried by the portal circulation to the liver; while below it, the blood stream mingles with the general circulation by way of the inferior vena cava. Above it, the rectum is supplied only with visceral or sympathetic nerve fibers, while below it, the anus and its surrounding structures are supplied with spinal nerves, and by sympathetic filaments. These spinal nerves carry sensory impulses common to nerves having specialized cutaneous nerve-endings.

Below the ano rectal line, as evidence of irritation of the spinal innerva, sensory disturbances are expressed in terms of pain, itching, formication, and in alterations in spinal sense of touch, and temperature, with their modifications, such as dryness and moisture. Stimuli producing these sensory disturbances show their presence by exciting motor contraction, or by inducing alterations in secretion.

Above the ano rectal line all of the specialized spinal sensations are absent, only the visceral sensations being present. In the rectum it is only pressure and muscle-sense that appeal to our consciousness. This sensation is translated in the brain into a

desire for stool, which desire is inhibited or assisted voluntarily, as occasion may require.

Excessive spasms of the involuntary muscles supplied by visceral nerves produces an unpleasant sensation, which differs from pain of spinal origin in that it is difficult to localize, and may be described more as an ache, which is difficult to bear and exhausting to the patient.

Lesions of the crypts of Morgagni, since they involve both the visceral nerve supply of the rectum and the spinal innervation of the anus, are associated with many disturbances of the reflexes.

Infection, and malignant processes, occurring above the dentate border, tend to spread upwards, by way of the deep lymphatics, to the pelvic or uro-genital organs, or to the liver, via the portal system. Below the ano rectal line superficial abscesses result from infections of the proctoreum and the rectal crypts. Malignancy here is associated frequently with extension to the inguinal glands.

In general, there is a marked tendency for pathologic processes to limit their invasion to the embryonic structure in which they began; the ano rectal line being the "great divide" between the ectodermic and the entodermic structures. Rectal infection and malignancy rarely extend below the dentate border, while anal pathology usually remains below this line and the levator ani muscles.

Ano rectal symtomatology is equally differentiated. The subjective symptoms of a pathologic process bear little relationship to the lesion, per se, but depend upon the interference with the functions of the spinal or sympathetic nerve supply of the tissues involved, whether this interference be mechanical, inflammatory, or functional.

"Further Observations on Pruritus Ani: Its Probable Etiologic Factor; Results of Treatment."—By Dwight H. Murray, M.D., of Syracuse, N. Y.

Dr. Murray's paper, which is a continuation of his investigations on the etiology and treatment of pruritus ani, gave some

new points which he had observed during the past year, and his additional experience in the treatment of patients. He found no reason for materially modifying his former reports, but has gathered data which helped to prove the correctness of his previous work. He found streptococcic infection in three cases of pruritus ani and vulvae, and in four cases of pruritus that had involved the scrotum as well as the anus. These complicated cases improved, with the exception of two vulva cases, by the use of the vaccine treatment.

During the past year Dr. Murray has increased his former series of thirty-two cases, by twenty-five additional cases, in five of which streptococcic infection was not found. These cases showed other infections, which still further proves the coccicgenous nature of pruritus ani; and also demonstrates that other bacteria than streptococcini may bear a causal relationship, as was hinted in his first paper on this subject.

His cases, so far as he has been able to determine, have not been affected by diet. Since Dr. Murray discovered the infection in pruritus ani he has never interfered with the food of any patient; neither has he restricted them in the smoking or drinking habits. The improvement under the vaccine treatment, without regard to eating, drinking, or smoking, gives him additional proof for the bacterial theory.

During the past year he has carefully investigated as to whether or not the itching extends into the anal canal beyond Hilton's white line, with the result that only in one instance did it extend beyond that point, and then only for a short distance.

His investigations of the past year have given him additional proof that pruritus ani is not caused by any local lesion within the anal canal, and that when such lesions exist with pruritus ani they are coincidental.

In the cases that have been operated for local lesions the pruritus ani has not been permanently improved as a result of the operative procedure.

He said that rectal and general surgeons have observed many cases of fistulæ with discharges upon the anal skin, without pruritus ani being present. The same is true of hemorrhoids, con-

stipation, and other rectal lesions, pruritus ani occuring in only a small proportion of such cases. He, therefore, still holds that when pruritus ani exists in connection with other lesions it is a coincidence. In his 1912 report he gave a summary of nine hundred consecutive rectal cases wherein this fact was established fairly well.

He referred to the opsonic index, or more properly the coefficient of extinction of opsonins, and claimed that much valuable information was to be gained by this test.

His work shows that if a complicating infection exists, and other bacteria than streptococci are found to be the sole invading organisms, we must use the corresponding autogenous vaccine. The opsonic index, following a bacterial diagnosis, is the proper method for determining this.

The results of treatment, and the history of patients, prove to him that if pruritus ani exists with local lesions which demand operation, that the prognosis depends upon whether a skin infection is present or not. If the skin infection is present the local lesions may be cured by the operation, but the patient should not be led to believe that the pruritus ani will also be cured by it. Per contra, if a skin infection, does not exist with a local lesion and itching, the prognosis may be that the itching will very likely cease with the cure of the local lesion.

After personal investigation in treating; watching results; noting how cause, effect, and results dovetail together; comparing these investigations with statements and theories made in textbooks, and in articles appearing from time to time in medical journals, and containing no definite pathology or scientific reasons for cause and effect; Murray can not understand how the profession will uphold such theories, rather than the bacterial theory which has been so well proven in his own cases and confirmed by other observers.

The uniformity of the bacteriologic findings is a strong support for the bacterial theory of the etiology of pruritus ani. The chronicity of all the cases; the uniform symptoms; the similar condition of the skin; the locality; the regularity as to the time of attacks; the uniformity of itching outside of Hilton's white

line; the uiform blood findings as to the coefficient of extinction of opsonins; and the fact that all local applications which have given beneficial results in the past have contained a strong germicide; all point directly to a common cause. Further confirmation is found in the uniformly good results of treatment with autogenous vaccine of the variety of bacteria against which the patient has a low phagocytic power; and in the lack of good results by the various haphazard methods of treatment in general vogue.

His reference to fissures in previous papers having been misunderstood by some, he desired to state that he had referred only to fissure-like cracks of the skin, and not to anal fissures or ulcers.

Endo's medium is used to plate the cultures. The vaccine employed is of the strength of one billion to the cc., beginning with two minims, or one hundred and thirty millions.

Dr. Murray refers to a paper written by Dr. Jerome Wagner, of New York City, published in the May number of the Medical Review of Reviews, in which Dr. Wagner reports some erroneous ideas claimed to have been gleaned from reading Murray's first two reports. Dr. Wagner not having been able to confirm these reports, Dr. Murray pointed out the errors of technique in Dr. Wagner's work, as well as his errors in the interpretation of the reports.

Dr. Murray gave statistics, in favor of his theory, drawn from three years original work on the subject; he also gave a summary of the results of treatment, showing the favorable clinical results with autogenous vaccines in a large majority of the cases treated.

He summed up his conclusions, as follows:

1. Results of the past year's work continues to uphold the correctness of the bacterial theory of pruritus ani.

2. It is advisable to make a bacteriologic examination of all cases of pruritus vulvæ; also of cases of scrotal pruritus.

3. The co-efficient of extinction of opsonins is a valuable aid in diagnosis in complicated and obstinate cases.

4. Pruritus ani in this series of cases rarely extends above the white line of Hilton, and it is still subjudice.

5. The presence of a skin infection with a local lesion begets an unfavorable prognosis for the cure of pruritus ani by an operative procedure.

6. The absence of a demonstrable skin infection and the presence of a local lesion, with pruritus ani, will justify us in making a favorable prognosis for the cure of the pruritus ani by an operative procedure.

7. Pruritus ani, with such infection as we have demonstrated, and a lesion existing in the anus or rectum, according to his statistics, is a coincidence; and the latter lesion is not the cause of the pruritus ani.

8. The sphincter muscle does not allow a leakage of rectal mucus upon the anal skin of one who has pruritus ani, except there is a patulous anus, any more than it does in a normal individual who has no pruritus ani. The moisture of the parts is due to a low grade inflammation of the infected anal skin.

"Treatment of Fistula-in-Ano."—By J. A. MacMillan, M.D., of Detroit, Mich.

There are three essentials for the operation for this condition:

1. An incision that will open up every ramification of the fistulous tract.

2. The excision of the fibrous tissue which forms its walls.

3. Free drainage, and a regulation of the granulation by means of pressure by gauze packing.

Extracts from Home and Foreign Journals.

SURGICAL

Certain Dangers of the Adenoid Operation.

Grove *Johns Hopkins Hospital Bulletin,* April, 1913), calling attention to the fact that the adenoid operation is the one most frequently practiced by the laryngologist, the rhinologist, or otologist, and is regarded by the laity and many physicians as absolutely harmless, groups the most frequent and dangerous complications under postoperative bleeding and postoperative infection. He quotes seven fatal cases of bleeding reported by Barrell and Orr in 1907, and notes that Burger is credited with having collected from the literature 40 cases of severe bleeding with three or four deaths. Since the operation is done by the sense of touch and always in an infected field, it is obvious that infections must frequently form postoperative complications. Practically all the acute infectious diseases of childhood have been observed as postoperative sequelæ. Cases of scarlet fever and diphtheria are due to the fact that the operation was carried out in the incubation period of these conditions, or it was performed on patients who were chronic bacillus carriers, in whose throats the bacillus of diphtheria or the virus of scarlet fever was present in latent or in a non-virulent form.

Grove concludes that it would be well to operate when no local infectious processes were present in the nose, naso-pharynx, or ear. We should do well, also, not to operate during local epidemics of the acute infectious diseases of childhood, especially if the patient had come into any sort of contact with children ill of these diseases.

Finally, we all realize that the ideal method of working is to make hospital cases of all these operations and to keep the patients under observation for a considerable period of time. This is practically impossible in all cases, but we can, nevertheless, keep our patients under observation for longer periods of time

than is as present customary, especially if these patients are adults. If after two or three weeks no complications appear we can discharge the patients from our care.—*The Therapeutic Gazette.*

Gastric Ulcer, Treatment of Perforated.

While the best local treatment for a perforated gastric or duodenal ulcer is to close it by suture, and the abdomen with drainage, there can be no doubt that one of the first difficulties which a surgeon meets in these cases is to close the ulcer soundly and satisfactorily. The reason is that the stitches cut through the sodden, swollen tissues in which they have to be inserted to close the perforation. One can not but surmise that many perforations deemed to be closed satisfactorily at the operation are not so an hour or two later. In spite of this, patients who have been operated upon continue to recover. Hence there is a justifiable suspicion that cases of perforated gastric or duodenal ulcer can recover when the perforation is not closed, or at least imperfectly closed.

Since 1908 the author has used the principle of isolating, but not closing, the ulcer on 15 occasions, including one perforation on the posterior abdominal wall. In two of these the end of a gauze plug was held by a cat-gut stitch in the aperture of the perforation. These patients have done uniformly well. As a rule, the longer the time spent in suturing the perforation, the greater the insecurity of the closure. Isolation of the perforation by tamponade has the advantage of being simple and of saving valuable time. No patient on whom it was done ever needed a primary or a secondary gastroenterostomy. No patient had a gastric fistula or has in any way, as by delayed convalescense, showed signs of non-closure of the ulcer. When the perforation is not sutured the end of a gauze drain is always placed next the ulcer, and brought out of the wound. This drain is removed in about thirty-six hours under anæsthesia with nitrous oxide gas and not replaced. After operation the patient is placed in the Fowler position, saline solution is administered rectally and continuously, and nothing but water is given by the mouth for three

days. Recently it has been the author's practice to enclose the isolating tampon of gauze in a longitudinally split-rubber tube, a cigarette drain, part of which is left in position after the removal of the gauze.

Having shown the practicability of the successful isolation of a perforation with a gauze tampon, the author suggests that at first an attempt be made to close the perforation by suture. If this fails or appears to afford a doubtful closure of the perforation, no further time should be spent on it, but the ulcer be plugged and drained. The author believes that the isolation of these ulcers by tampon will become the first and most popular line of treatment except in cases operated upon very early after perforation.—E. M. Crane (*Lancet,* March 1, 1913.)

Resection of Cancer of the Esophagus.

Denk describes a method of resecting the esophagus for cancer below the bifurcation of the trachea. Through an incision 20 cm. long parallel to the left costal arch the esophagus can be loosened with the finger up to the bifurcation without bleeding and without injuring the pleura. He supplements the finger with a little instrument like a vein stripper. If the cancer can not be separated out without cutting, he concludes with a gastrostomy. If the cancer proves removable, he then exposes the esophagus in the neck and mobilizes the upper portion in the same way. Then with both hands, one working from below and one from above, it is possible to detach the esophagus all around without the least difficulty. He then clamps it above the cardia and applies on each side two 1 cm. wide metal clips, like Cushing's aneurysm clamps, and after applying a clamp on the cardia beyond, the esophagus is cut across close below the clamps. Ligature can be applied above the clamps to be a further protection. The entire esophagus is then, with its cancer, drawn out through the incision in the neck and the cancerous segment excised, the central stump drawn into the subcutaneous tissue in the front of the chest and the open end sutured to the skin. The operation concludes with a gastrostomy; or this can be done two or three weeks before the radical

operation. After healing he connects the stump of the esophagus with the gastrostomy tube to restore the functioning of the gullet. The operation has not yet been applied in the clinic but its feasibility has been abundantly established on the cadaver and on animals. The advantage of the method is in the avoidance of any injury of the pleura and in the impossibility of infection of the mediastinum with the contents of the esophagus, while the dangers are no greater than with the transpleural methods.—*The Journal of the American Medical Association.*

MEDICAL

Poison-Oak Experiments.

In the *Interstate Medical Journal* for February, 1913, von Adelung writes on this practical topic. He believes potassium permanganate is curative. It acts probably by combining chemically with the toxin, and is, therefore, more effective early and when the papules and vesicles are opened by vigorous rubbing with the remedy.

There are two objections to the use of potassium permanganate: (1) It produces a mahogany-brown stain which at times is difficult to remove. But a one-per-cent solution of oxalic acid usually removes the color. It should not be forgotten that this acid is a violent poison and should be used with great caution. (2) After the use of the permanganate and oxalic acid the skin is often left severely cracked. This is met by soothing ointments or oils.

Peroxide of hydrogen, ammonia, hyposulphate of sodium, and other commonly used applications tested by the control method showed little or no therapeutic value.

Bearing in mind that the disorder is caused by a poison on the skin, the first thing to do in treating the dermatitis is to forestall the appearance of new patches by removing all poison from the surface. This is easily accomplished by a soap-and-hot-water bath of the whole body, especially the hair. After the bath, fresh

clothing should be put on, not even wearing the shoes that were near the plants. The itching is relieved by water as hot as can be borne, and is often a pleasant treatment. Remedies, palliative or curative, may then be applied. When the vesicles become infected with bacteria, the dermatitis is quite different, and will call for antiseptic or bactericidal treatment. Potassium permanganate will then be found of small value and hot bichloride packs of much value. The following hospital case illustrates this point:

A 25-year-old-male was poisoned four days ago. Both arms showed marked edema, vesicles and pustules. He had already applied cold permanganate six or seven times, so hot permanganate was applied frequently by the nurse. There was no improvement in twenty-four hours. When the solution was changed to hot bichloride, and the arms bandaged with the same solution, recovery began and progressed rapidly.

Von Adelung concludes that the toxin of *Rhus diversiloba,* in contact with the skin of susceptible persons, causes a non-contagious dermatitis, strictly localized to the areas of contact, and not disturbed by the blood or lymphatic streams. The toxin is not destroyed by 100° C. for one hour, is not volatile, and poisons "at a distance" only through mechanical carriers. The most valuable remedy yet known is potassium permanganate, which is most effective when applied hot.—*The Therapeutic Gazette.*

Present Status of Organ Transplantation.

At a recent session of the Berlin Surgical Society (*Berliner klinische Wochenschrift,* June 16) Stitch gave a much needed sketch of this subject. Seven years ago Carrel began his autoplastic work, and it was thought highly probable that animal organs could be successfully implanted from an animal to another of the same species and from man to man. This held quite good for segments of blood vessels and in invertebrate animals the heads could be exchanged. Carrel's experiments showed that neither homoplastic nor heteroplastic transplantation could be successfully made between vertebrates. The transplants grow in, but degenerate within a short time. The only exception is

tumor transplantation. In regard to homoplastic transplantation, this is said to be possible at times in animals which are consanguine. Many remarkable cases of homoplastic transplantation seemed for a while to have been successful. Carrel, Unger, Sajou, Ullman, and others have reported cases of kidney transplantation of all three types, some on human beings. Carrel and Unger have shown the practicability of homoplastic transplantation in animals, while quite a few cases of the heteroplastic type have succeeded. In human beings, he said, failure awaits either form of transplantation. It is claimed by Unger, however, that remarkable instances of prolongation of life as a result of transplantation justify occasional resort to the latter, when all other measures fail and the patient is still responsive to treatment. He implanted both kidneys of a large ape in a girl with uremia. The kidneys were permeable in thirty-two hours and showed no sign of degeneration.—*Medical Record.*

Creosote for Pulmonary Tuberculosis.

Born of a conviction covering a large experience of over twenty-five years, Dr. Beverly Robinson is convinced that creosote, when properly used, is the best medical adjunct to fresh air, sunlight, and good food, which we possess in the treatment of pulmonary tuberculosis. In order that it may be curative, creosote must be used with intelligence and persistently during many months, both internally and by inhalation. Internally, Robinson prefers the following formula:

℞ Beechwood creosote (Merck) qtts. vi
Glycerine ℥i
Rye whiskey ℥ii

M. et sig.: One dessertspoonful every 2, 3 or 4 hours, diluted with a little water.

The best formula for inhalation is:

Beechwood cresote (Merck)
Alcohol
Spirit of chloroform aa ℥i

M. et sig.: Use 10 drops on the sponge of a perforated zinc inhaler.

The inhaler should be used for a few minutes at a time in the beginning, until the patient becomes accustomed to it. Later (after a week or more), it may be used for half an hour at a time. Finally, it may be used almost continuously during the day, and frequently all night without interfering with sleep. Whenever the inhaler is used continuously, a small amount of creosote is required internally, and on the contrary, when the inhaler can not be used frequently and for a long time, more creosote should be given internally. Following this plan of treatment, according to Robinson, most patients are relieved of many of their unpleasant symptoms. It will help cure a large number; it will hurt none.—*Medical Review of Reviews.*

Laryngitis, Relief of Dysphagia in Tuberculosis.

The following procedure is employed by the author: There is placed, or the patient places himself, on the tongue 0.3 to 0.4 Gm. (5 to 6½ grains) of an absolutely dry powder of orthoform or anæsthesin. A few movements of deglutition, performed without previous admixture of saliva with the powder, cause the latter to descend to the level of the epiglottis and arytenoepiglottidean folds. On its way it comes in contact with the infiltrated areas or ulcerations covering the entrance to the larynx, and in a few minutes the patient is able to swallow without distress. Where the ulcers are in the interior of the larynx, however, the measure is not so effectual. The dose referred to can be repeated three or four times daily for several weeks without any inconvenience. The procedure is also recommended for cases of quinsy and after operations on the tonsils.—Hinsberg (*Journal de medecine et de chirudgie practiques,* March 10, 1913).

Possible Contraindications for Antityphoid Vaccines.

There has been some hesitation, says the *Interstate Medical Journal,* about adopting typhoid immunization, and this would appear to have been wise. Spooner finds that typhoid vaccine has had the effect of activating non-typhoidal disease which was latent

or chronic at the time of the injection. Combe and Lewis also advise considerable care to exclude other diseases before vaccination for typhoid is undertaken. It ought not to be performed except in perfectly healthy subjects. Sore throat, pains in the limbs, influenza and pulmonary affections, acute gonorrhea and primary and secondary syphilis exclude its use. Chronic affections are more important as possible contraindications. Special attention should be paid to the suspected tuberculous individual. Typhoid antigen produces the same effect as tuberculin on the temperature of tuberculous subjects. An abnormal reaction in a subject who does not present any obvious trace of this disease, in the absence of a previous attack of typhoid, suggests latent tuberculosis. In cases with a history of past tuberculosis, though apparently cured, and in which the general health is satisfactory, antityphoid vaccination, if required, should be given cautiously. If marked constitutional reaction follow it is preferable to discontinue the vaccination. In the case of malaria, vaccination should be done between attacks, fifteen grains of muriate of quinine being given with each injection. Otherwise it will bring on an attack. Cachexia from any cause, organic heart or kidney disease, diabetes and mucous colitis are held as contraindications. It should not be given to females during the menses, nor to exhausted, fatigued subjects. Combe and Lewis believe it is to be absolutely unsafe in civil life.—*The Medical Brief.*

Wood-Alcohol Blindness.

H. Woods, Baltimore (J. A. M. A., June 7), reports two cases of blindness from wood alcohol in addition to those formerly reported by him. His object in reporting them is to arouse, if possible, a sufficient medical public opinion to bring about legislation that will protect unsuspecting individuals from misfortune from this source. In one of the cases the blindness is attributed to the external use of wood alcohol; in another from drinking supposed and mislabeled whiskey containing it. The cheapness of the sub stance is a temptation to manufacturers and dealers, and the discovery that it could be deprived of its nauseating qualities has been

a misfortune. He remarks on the singular fact of the different susceptibility of individuals, some persons seeming to be able to take considerable quantities with immunity. The preventive methods Woods recommends, in case its manufacture can not be prohibited, are, first, making it mandatory to leave it undeprived of its nauseous qualities or else making it otherwise unfit for drinking. The State Board of Health should control its use, and individuals, firms or corporations utilizing it should be obliged to report the fact to the Health Board. Its use in vaults, vats or unventilated places is a terrible menace to society and life, and should be regulated. Those using it should take special pains to instruct their employes as to its dangers, and wherever it is sold it should be with the usual precautions attending the sale of dangerous poisons.—*Maryland Medical Journal.*

Hypodermic Injections of Distilled Water.

The hypodermic injection of distilled water alone produces very remarkable results. Our readers are familiar with Schleich's method of inducing anesthesia in this manner, and now an English practitioner, G. Arbour Stephens, asks, in a letter to the *Lancet* for March 15, 1913, that physicians test, and if possible corroborate some very good curative results he has had in the treatment of syphilis, by the injection, every third day, of six to eight c.c. of distilled water into the subcutaneous tissue of the back. After three doses all the patients looked and felt much better and their ulcers appeared very much cleaner. After each dose the temperature showed a rise supposed to be characteristic of vaccine treatment. In three weeks Mr. Stephens had very gratifying results in ulcers of the cheek and leg and in rupia with abscesses threatening to break. No other treatment was used.

Taking into consideration the curious results obtained in tuberculosis by the hypodermic injection of various agents, along with the experiments of Mr. Stephens, both the physical and the psychic effects of such injections seem to deserve further study.—*The American Practitioner.*

OBSTETRICAL

Pelvis, Contracted, Procedure for Facilitating Delivery in.

The procedure recommended by the author consists in putting a cushion under the sacrum of the parturient woman and, with attendants on either side, having the patient's knees carried up and pressed against the middle of the abdomen, with the legs turned outward(during each pain. By this method the sacroiliac joints are placed on the stretch and the promontory of the sacrum tends to recede in a posterior direction. The anteroposterior diameter of a contracted pelvis can thus be increased and, according to the author's experience, living infants successfully delivered in cases where this would not otherwise have been possible. —G. Freudenthal (*Berlinger klinische Wochenschrift*, April 14, 1913).—*Med. Review of Reviews.*

When is the High Forceps Operation Justifiable?

James A. Harrar, attending surgeon at the Lying-in Hospital of New York, gives, in his hospital *Bulletin,* the following as his conclusions in regard to the high forceps operation, basing them upon his own work and the work of others in the service of this hospital:

High forceps must always be considered a major operation, to be performed only by the trained obstetrical operator.

It is never to be selected before labor as the ultimate operation; in other words, it is not an elective operation.

High forceps is preferable to version in the treatment of dystocia due to contracted pelvis.

Before applying forceps to the floating head, be assured that the head can be made to engage in the brim of the pelvis with suprapubic pressure properly directed.

If in a contracted pelvis the head will not thus catch or bite in the brim, and if there is distinct overlaping, it is almost certain

that it can not safely be delivered with forceps, except with the aid of pubiotomy, and, finally,

Situations do arise in which it is justifiable to apply forceps to the head above the brim.

(1) *In normal pelves.* In delayed dry labor when interference becomes urgent on account of the condition of the mother or the child.

(2) In deformed pelves of medium degree. When it is possible, with one or two moderate pulls, to draw the largest diameters of the head through the pelvic inlet.—*The Medical Brief.*

Postconceptional and Hereditary Syphilis.

Jean Bobrie (*Etude sur la Syphilis,* etc., Paris, 1912), gives the following conclusions from his study of postconceptional syphilis and heredity of syphilis. In the absence of all treatment we may find placentas that are macroscopically healthy along with children evidently syphilitic. Nevertheless, maternal treatment has a marked effect on placental hypertrophy. The gravity of the syphilis of the fetus bears no relation to the hypertrophy of the placenta. Hydramnios is exceptional. At whatever time of pregnancy the maternal chancre is contracted the fetus is still infected. The degree of infection varies with the time of infection; the maximum gravity, causing macerated fetus, is at the third month; the gravity then decreases. The fetus never receives a true immunity; while there may be no evidence of syphilis the disease is still present in a latent form. Postconceptional syphilis is more serious for the existing pregnancy than for a later one. The fetus is always infected long before the roseola appears; infection occurs as soon as the mother has been attacked by the chancre. The most effective treatment is mercury in the form of soluble salts or pills; gray oil and salvársan have not so good an effect by far. Hereditary syphilis can only be transmitted to the fetus by way of the placenta; the spermatozoon which contains a treponema can not fecundate an ovum. Exceptions to Colles' law are not true. Mothers who do not show syphilitic lesions are still infected, the syphilis being latent. Heredodys-

trophy is a consequence of syphilis, but not syphilis itself; such infants can become infected by syphilis, and it is then transmissible by the germinative cell only.—*Arch. of Pediatrics,* May, 1913.

Serious Complication Following Use of Pituitrin.

A woman of 32 was in labor with her first child. The cervix was rigid, the membranes ruptured, the labor pains weak and far between, the os dilated about the size of a silver quarter. The third day an injection of pituitrin was given, two hours later a second injection and the cervix was slit. Five hours later a third and two hours later a fourth injection of pituitrin was given. They were followed in half an hour by labor contractions so excessive that they kept up practically continuous for two hours, with spasmodic closure of the cervix. Finally pain in the sacral region became intense, requiring morphine; the temperature rose and also the pulse, and a mixture of amniotic fluid and stool escaped from the cervix. As a consequence of the two hours' pressure of the fetal skull on the sacrum from the intense contraction of the uterus, under the action of the pituitrin, the tissues between had been destroyed and a fistula was formed between the rectum and the cervix. The child was delivered with forceps and died the seventh day from sepsis.—*The Journal of the American Medical Association.*

Quinine in the Treatment of Incomplete Abortion.

The oxytoxic properties of quinine have long been recognized by the profession, but its exclusive employment in the treatment of incomplete abortions has never been adopted by anyone, to my knowledge. Ergot in these cases is unsatisfactory, as it causes as forcible contractions of the cervix as any other portion of the uterus, whilst quinine acts chiefly upon the fundus. On being called to a case of this kind, I administer six grains of quinine at once and three grains every hour thereafter until the womb is completely emptied, which never fails to occur in a few hours. This

practice I have constantly followed for seven years. Prior to that time I employed the scraping process, usually with the forefinger of the right hand, in removing the adherent placenta. Why I continued this procedure so long I can't conceive, to the great annoyance of my patients, sometimes necessitating the use of an anesthetic and always that of an intrauterine douche. The treatment of incomplete abortions by quinine has many advantages, one of which is the absolute necessity of secrecy, in many cases.

I have more than once had under my care girls of respectable parentage, with retained decomposing products of conception, whose families had rather seen them carried to an untimely grave than have their disgrace made known, even to a physician. I have been afraid to hint at the condition present and dared not even ask for a vaginal examination. There could be no objection to the nature of the case being revealed through the expulsion of the contents of the uterus by quinine, as none but the one in immediate attendance need know anything about it. It is surprising to me that abortionists, if they will continue their nefarious calling, do not employ quinine instead of mechanical means, as it is safe and will always cause the womb to disgorge at any state of gestation, particularly if it is preceded by a drastic purgative, such as a compound cathartic pill. A short time since I was called to the bedside of a young married woman who had brought on a miscarriage by introducing a stiff rubber catheter into the uterus. When I arrived I found, as is usually the case, that the fetus had been expelled, but the placenta was still adherent. Fever had set in and she was becoming ill. I gave her quinine, and by the next day she was comparatively well. This woman told me she was taught to use the catheter in this way by her cousin, who lived in a large city and who had, under instruction from a physician, rid herself of the burden of carrying six children to full term in the same way. I have no doubt that many women in our large cities, who are left by abortionists to die of sepsis, might be saved by the timely and proper admisitration of quinine. Of all the procedures I have adopted since entering the medical profession, the treatment of incomplete abortions by quinine has been the most satisfactory, as it has always been successful.—*Maryland Medical Journal.*

Editorial

PUBLISHER'S NOTICE—The Journal is published in monthly numbers of 48 pages at $1.00 a year, to be always paid in advance.

All bills for advertisements to be paid quarterly, after the first insertion of the quarter.

Business communications, remittances by mail, either by money order, draft, or registered letter, should be addressed to the Business manager, C. S. Briggs, M. D. corner Summer and Union Streets, Nashville, Tenn.

All communications for the Journal, books for review, exchanges, etc., should be addressed to the Editor.

BRITISH MEDICAL ASSOCIATION.

The eighty-first annual meeting of the British Medical Association was held at Brighton July 22 to 25, 1913. There were about thirteen hundred members present and the most of them brought their wives and daughters. The council or legislative body met three days before the main body convened and had time to settle about the business and medical politics. The mornings were given up wholly to scientific work and after one the British doctor gave himself entirely to pleasure. And why shouldn't he do so? Doctors are entitled to recreation and how better than with their fellows of the profession at their annual meeting? They certainly did the social act as of long experience. The Mayors and Mayoresses of Brighton, Howe and Eastbourn and the municipalities of the same, all adjoining towns, vied with each other as to who could do us the more honor. Private individuals as well did the same, while the members of the local profession of Brighton and vicinity did their very best. Numerous excursions to places of interest in the vicinity were given. The Saturday following the meeting was entirely given up to excursions. Throughout the week there were numerous games of cricket, golf and croquet. The visiting ladies were given an extensive motor car ride every morning, which they very much enjoyed, as the country about Brighton is beautiful. Brighton is England's most popular seaside resort, and being so near to London, but

little more than an hours ride by train, is almost a suburb. Brighton is in fact often spoken of as London.—E. S. McK.

A Frigid Fourth.

It was a far cry from a Cincinnati Fourth of July, with its heat and dust and endless noise, to the Arctic Ocean and the Midnight Sun. It was on the afternoon of the 4th of July, 1913, at 4 o'clock, that my wife and I, with about 40 other Americans and as many other folk in the good yacht Vega, with her Norwegian crew, crossed the Arctic Circle. We have elaborate diplomas to that effect given us by Neptune who came up out of the sea with his luxuriant hair of untwined rope. The ceremony was quite interesting. At the moment we crossed the Arctic Circle the four guns of the ship were fired by four young ladies representing each nation on the boat. At dinner that evening everybody dove down into their trunks, got out their best clothes and put them on. The band played all the patriotic American airs and the American flag was in evidence, even the ship that day carried the flag of the United States. That night was our first opportunity to see the Midnight Sun, and we saw it, bright and clear. It is an interesting sight to see the sun at midnight just about to set, then change its mind and go on and up. It is strange also to see the midnight sun in the north instead of in the south as the midday sun. We saw the sun at midnight three times out of the five opportunities. We had a fornight of daylight, for if the sun is down an hour or two it is not dark. Midnight was the hour for functions. The band played, then the guns were fired, the people danced and lunched at midnight. Sleep was out of the question. I'll never forget the Midnight Sun.—E. S. McK.

Address in Surgery, B. M. A.

Sir Berkeley Monynihan of Leeds delivered the annual address in Surgery at the eighty-first annual session o fthe British Medical Association at Brighton. He spoke for an hour with a delivery and diction which was perfect, plain and clear; anyone could

understand him, yet he enunciated truths and wisdom without stint. He discussed the pathology of the living possibilities of diagnosis in the living, chronic ulcer and carcinoma, reduction of the dread of operation of surgery, gifts to medicine, surgery, and its revelations. He certainly dealt kindly with the surgery and surgeons of America. Commencing with the great boon of the discovery of the anæsthetic power of ether (he does not use chloroform), the speaker went on to compliment in the highest terms, among others, the following American surgeons: Senn, Murphy, Crile and all the Mayo clinic. He dwelt much on those surgeons who attack their patients with canine ferocity and much preferred that surgeon who had the heart of a lion, yet the hand of a lady; not the one who had the claws of a lion and the heart of a sheep. Those who have known and consequently loved Sir Berkeley were not surprised at him rising to any height. Those who listened to him for the first time were simply held by both his oratory and his personality. Sir Berkeley Monynihan is certainly a gift from the gods to surgery.—E. S. McK.

Dental Interne (Male).

June 18, 1913.

The United States Civil Service Commission announces the postponement from June 4, 1913, to June 18, 1913, of the open competitive examination for dental interne, for men only. From the register of eligibles resulting from this examination certification will be made to fill a vacancy in this position at $600 per annum, with maintenance, in the Government Hospital for the Insane, Washington, D. C., and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

As the postponement of this examination is due to the fact that only one application has been filed for it, qualified persons are urged to enter it.

The scope and character of and requirements for this examination, as well as the list of places at which it will be held, are contained in Announcement No. 477.

Issued May 29, 1913.

Department of Agriculture Advises that Milk Be Pasteurized at Low Temperatures.

In order to determine the best way of pasteurizing milk so as to kill the disease germs and yet not give the milk a cooked flavor or lessen its nutritive value, the Department of Agriculture, through its dairy division, has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments in Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for thirty minutes the chemical changes are so slight that it is unlikely that the protein (muscle building element) or the phosphates of lime and magnesia, are rendered less digestible than they are in raw milk.

Moreover, from a bacterial standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to Bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated if kept for any length of time, has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the dairy division finds that pasteurizing at low temperatures calls for less heat. It is found that it takes about 23½ per cent less heat to raise milk to the temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ per cent more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The department, therefore, recommends that "When market milk is pasteurized it should be heated to about 145° F. and held at that temperature for 30 minutes."

Reviews and Book Notices

"Therapeutics of the Gastro-Intestinal Tract"—By Carl Wegele. Adapted and Edited, with Additions on the Diagnosis of the Diseases of the Esophagus, Diagnosis of the Diseases of the Gastro-Intestinal Tract, Duodenal Tube and Its Uses, Diseases of the Pancreas, and X-ray Examinations of the Gastro-Intestinal Tract. By Maurice H. Gross, M.D., Attending Gastro-Enterologist to the Har Moriah Hospital, and I. W. Hild, M.D., Attending Physician to the Har Moriah Hospital, with 52 Illustrations in the Text and two figures in colors on one Plate. New York, Rebman Co., Herald Square Building, 141-145 W. Thirty-sixth Street.

The editors decided upon the translation of this excellent treatise upon the "Therapy of Stomach and Intestinal Diseases" for the following reasons: "Because it comprises, in short, systematic arrangement, many important facts which are scattered in specialized works too exhaustive for the busy practitioner; because, rightly, according to the editors' views, it lays main stress upon and consistently carries out the dietetic, physical and hygienic treatment of gastro-intestinal diseases."

The editors have not only translated the work of the eminent specialist, but they have made extensive additions to it, especially in the parts relative to diagnosis. They have added a chapter on the esophagus, also on X-ray diagnosis and have entered fully upon the use of the duodenal tube—a comparatively new proeedure that promises to become of great value in diagnostic methods. The English speaking medical public should feel indebted to the enterprising publishers for having placed before it a work of such value.

"A Course in History—A Guide for Practical Instruction in Histology and Microscopic Anatomy."—By Rudolph Krauve, A. O. Professor of Anatomy at the University of Berlin. Translation from the German by Philipp J. R. Schmahl, M.D., New York, with 30 Illustrations in Text and 208 Colored Pictures, Arranged on 98 Plates After the Original Drawings by the Author. Part I and II. New York. Rebman Co., 1123 Broadway.

Part I of this useful textbook is devoted to microscopy—a guide to the technique of the instrument. It is a full and com-

plete description of the microscopic and its manipulations that will enable the student to use the instrument properly and instruct him in the preparation of histological specimens for study. The work is eminently practical and the instructions given are clear and easily followed. It is fully illustrated throughout, a feature that always enhances the value of a handbook.

Part II of this useful and artistic work is before us and we have been impressed with the wonderful educational value of this work. The publishers of the volumes deserve the thanks of the English speaking medical public for putting within its reach book of such intrincis value as this and others which are issued from its press. It is handsomely illustrated throughout and the translator has done his work so well that the text is clear and comprehensible throughout. This volume has as its table of contents three parts—Part I, The Cell; Part II, The Tissues of the Animal Body; Part III, Organs. The student will find these volumes of invaluable aid in the study of Histology and Anatomy, and colleges throughout the country should not hesitate to adopt it as a standard textbook upon the subject.

"Medical and Surgical Reports of the Boston City Hospital"—Sixteenth Series. Edited by George H. Monks, M.D., George G. Sears, M.D., and F. B. Mallory, M.D. Boston. Published by the Trustees, 1913.

We acknowledge with thanks the receipt of this volume of Medical and Surgical Reports of the Boston City Hospital. This is the first volume that has been published since 1905. The contents are unusually instructive and interesting as illustrating the advanced methods of treatment of diseases as carried out by this well known institution. Some of the papers are presented for the first time, some are reprints from articles published in other papers. To give our readers some idea of the character of reports presented we give the following as being among those that especially attracted our attention: The Use of Opium in Gangrene, by Geo. W. Gay, M.D.; a few cases illustrating Points of Interest in Renal Surgery, by Paul Thorndike, M.D.; The Operative Treatment of Fracture of the Patella, by John Bapst Blake, M.D.; The Luetin Test, by W. P. Bardman, M.D., and L. W. Gor-

ham, M.D.; Three cases of Spinal Cord Surgery, by Isador H. Coriat, M.D., and L. R. G. Crandon, M.D., etc. These are selected from thirty-three case reports, all of which are of the highest order of merit and scientific interest. We congratulate the editors and contributors upon having presented a volume of such value to the profession.

"Text-Book of Ophthalmology In the Form of Clinical Lectures."—By Dr. Paul Roemer, Professor of Opthalmology at Greifswald; Translated by Dr. Matthias Lanctton Foster, Member of the American Opthalmological Society; Member of the American Academy of Opthalmology and Oto-Laryngology, with One Hundred and Eighty-six Illustrations in the Text and Thirteen Colored Plates. Vol. III, New York. Rebman Co., 1123 Broadway.

This is Vol. III of a textbook of the two preceding volumes of which we have noticed in previous numbers of the Journal. This the final volume is the largest of the three and the system is a complete exposition of the subject in hand. The contents of this volume are XIII, The Pupil; XIV, Pareses of the Ocular Muscles; XV, Neurology of the Eye; XVI, Diseases of the Chorioid; XVII, Diseases of the Optic Nerve; XVIII, Diseases of the Retina; XIX, Functional Testing of the Eyes; Appendix and Index. The work of the translator is excellent and by his work he has placed English speaking specialists under a lasting debt of gratitude. We regard it as an exhaustive treatise upon Ophthalmology and recommend it as an up-to-date exponent of this important branch of medicine.

"Genito-Urinary Diagnosis and Therapy."—For Urologists and General Practitioners, by Dr. Ernest Partner, Specialist for Urology, Berlin, Germany. Illustrated and Edited by Bransford Lewis, M.D., B. Sc., Professor of Genito-Urinary Surgery, Medical Department of St. Louis University, St. Louis; Genito-Urinary Surgeon to St. Johns Hospital and Frisco Hospital; Member of American Urological Association; American Association of Genito-Urinary Surgeons; American Medical Association, etc. Forty-three Illustrations. St. Louis. C. V. Mosby Co., 1913.

The translators of this volume deserve the thanks of the pro-

fession for having placed at their command a work that so well carried out the intentions of the author in placing before the general practitioner a most reliable guide in the management of such genito-urinary cases as fall within his province to treat. The translator, Dr. Bransford Lewis, is one of the foremost genito-urinary surgeons of the United States, and his selection of the work for translation is of itself ample guarantee of the high character of the volume. The book is essentially practical and deals with such subjects as are calculated to help the practitioner manage urologic patients. In its pages the genito-urinary specialist will find many useful hints and enlightening ideas. We are very much pleased with the work and unhesitatingly recommend it to our readers as a most useful guide and vade mecum.

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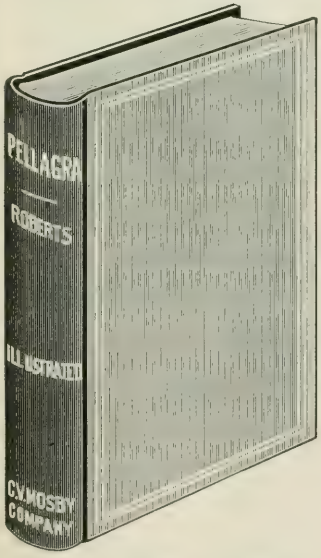

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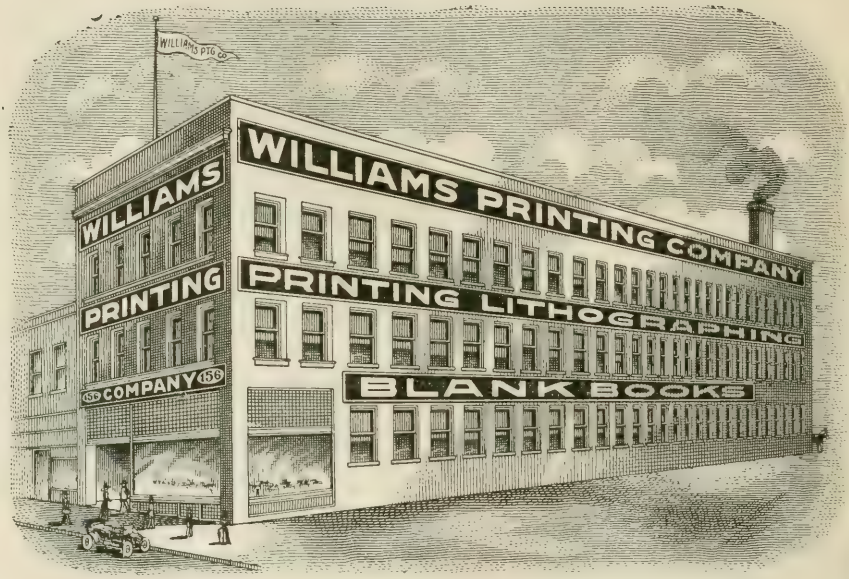

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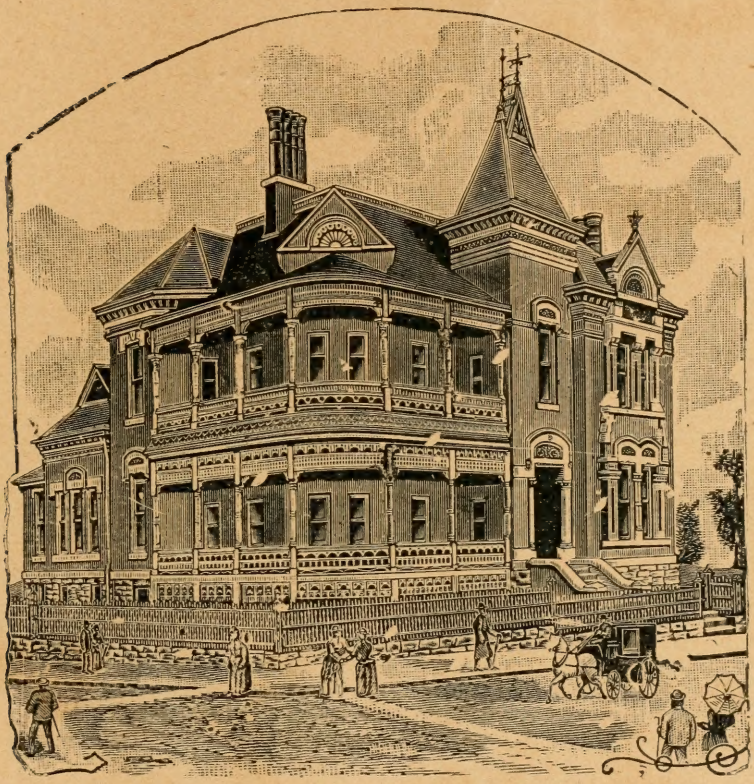

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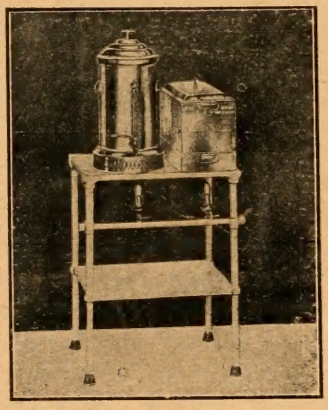

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